

15th Meeting Report for the GHRSSST Long Term Stewardship and Reanalysis Facility (LTSRF) at the US NODC

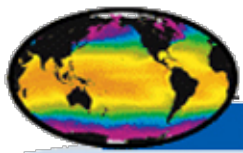
Kenneth S. Casey

Technical Director

NOAA National Oceanographic Data Center

**NODC Team: Deirdre Byrne, Gregg Foti
(Tom Ryan), Ajay Krishnan, Yuanjie Li, and
John Relph**

GHRSSST-15, 02-06 June 2014



Regional/Global Task Sharing

GHRSSST Long Term Stewardship and Reanalysis Facility



Interoperable user access via OPeNDAP, TDS WCS, FTP...

User requirements, services and feedback at all levels...

GHRSSST Regional Data Assembly Centers (RDACs)

		NEODAAS				

and more...

Level 2, 3 and 4 GHRSSST satellite SST data in COARDS/CF-compliant netCDF with ISO 19115-2 metadata

NODC Serves as LTSRF and RDAC

GHRSSST Global Data Assembly Center (GDAC)

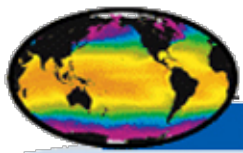
Rolling Archive | Data Ingest | MMR System | Data Tools | Data Access | User Services

Ancillary fields filled as needed, initial FGDC metadata records appended, data provided in 30-day rolling store

GHRSSST Long Term Stewardship and Reanalysis Facility

Data Ingest | CDR Production | Aggregation | Data Access | Metadata | Perpetual Archive

Perpetual archive services, data access and aggregation, climate data records and complete ISO 19115-2 metadata



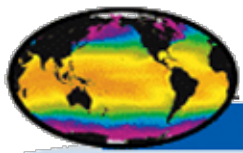
LTSRF Progress

GHRSSST Long Term Stewardship and Reanalysis Facility



	2007	2008	2009	2010	2011	2012	2013	2014*
Products		22	26	27	40	59	60	62
Accessions		39,048	49,957	59,982	67,906	92,282	105,046	107,925
Files		679,000	993,580	1,352,901	1,662,004	2,459,724	3,290,806	3,428,238
Volumes (TB)		13	20	28	34	57	69	72
Services	ftp http	ftp http	ftp http DAP	ftp http DAP WMS WCS	ftp http DAP WMS WCS LAS	ftp http DAP WMS WCS LAS Geoportal	ftp http DAP WMS WCS LAS Geoportal Granules CWIC	ftp http DAP WMS WCS LAS Geoportal Granules CWIC

***2014 numbers through 01 June 2014**



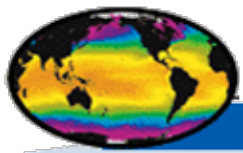
LTSRF Progress

GHRSSST Long Term Stewardship and Reanalysis Facility



	2006	2007	2008	2009	2010	2011	2012	2013	2014*
Files served per day	85	1130	1734	3413	21,956	14,896	28,807	20,056	13,826
GB served per day	0.2	1.8	3.9	18.8	66.3	115	73	145	117
Users served per day	3	7	8	8	11	19	19	24	40

***2014 numbers projected based on Jan-Apr statistics.**

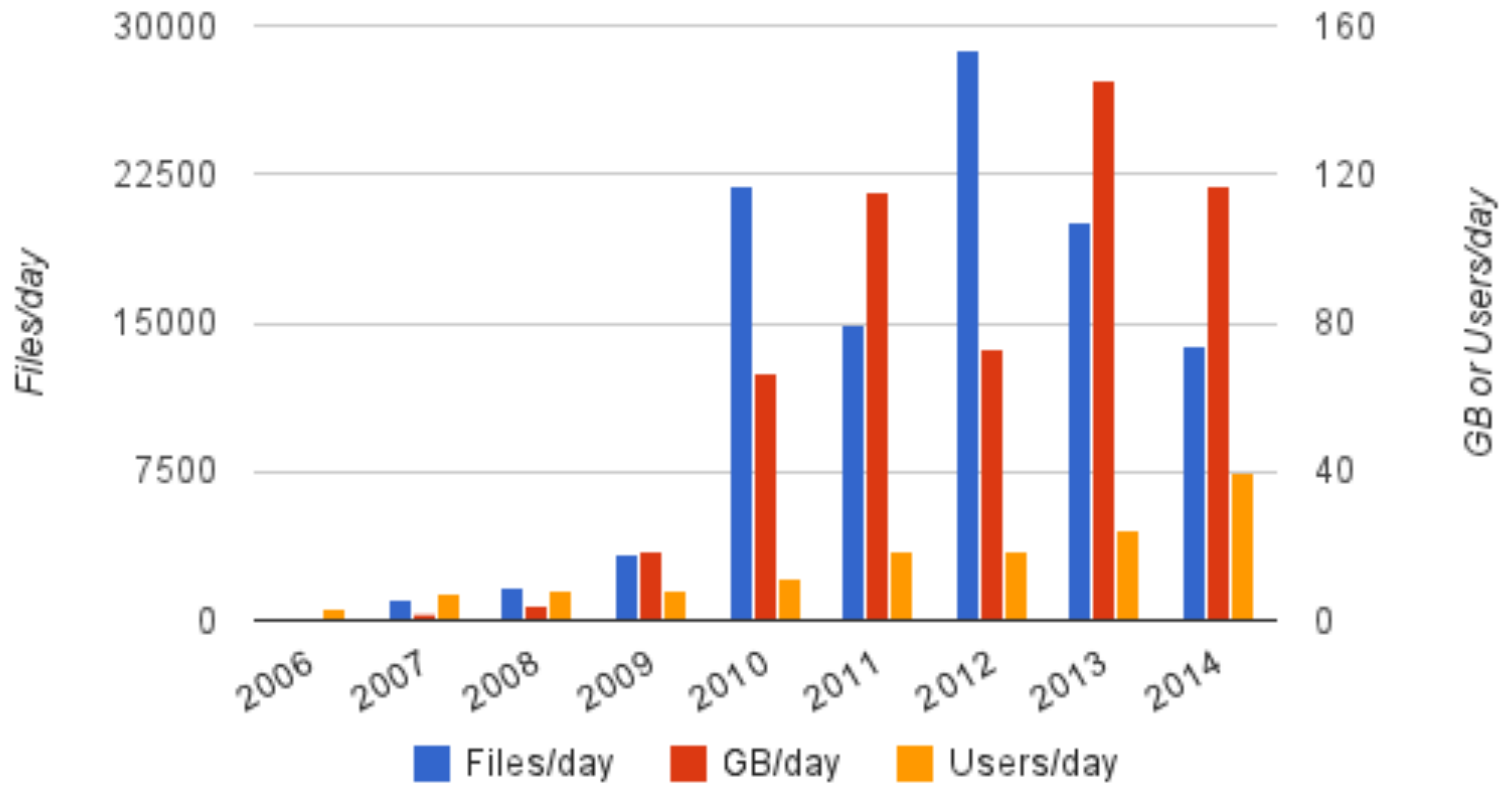


LTSRF Progress

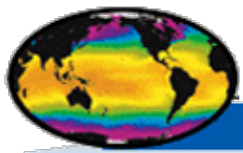
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GHRSSST LTSRF Access Statistics



***2014 projected based on Jan-Apr statistics.**

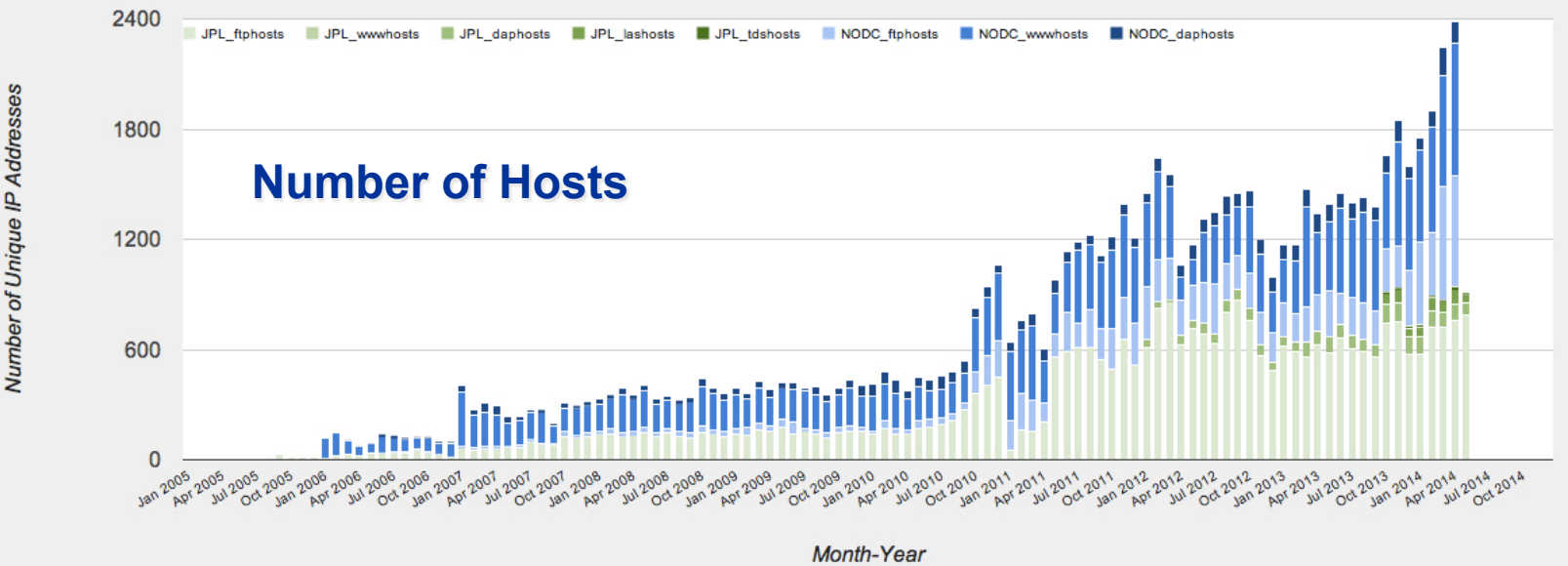
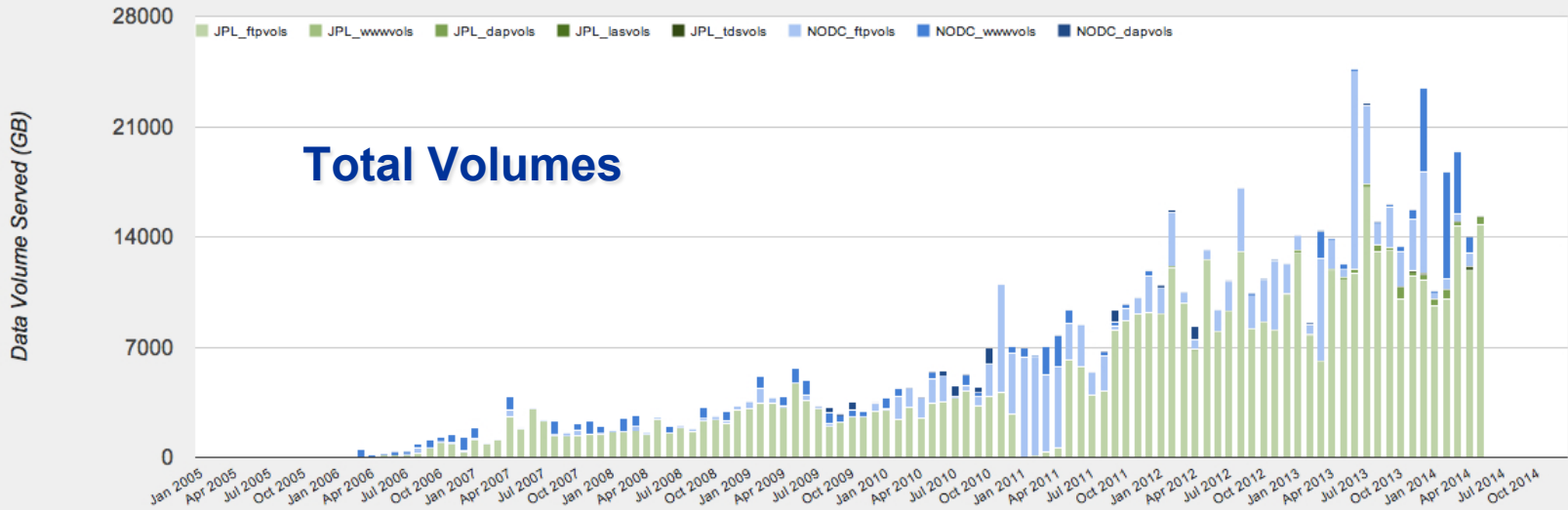


LTSRF-GDAC Combined Stats

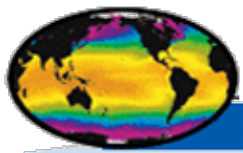
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GHRSSST: Total Data Volumes Served



Month-Year



GHR SST Discovery and Access

GHR SST Long Term Stewardship and Reanalysis Facility



- Human and REST interfaces
- Data access links
- All datasets with granule search
- Supports CEOS WGISS Integrated Catalog (CWIC)
- All gridded in LAS (L2P gridded, L3, and L4)

The screenshot shows the NOAA National Oceanographic Data Center (NODC) search page. At the top, it says "NOAA NATIONAL OCEANOGRAPHIC DATA CENTER (NODC) UNITED STATES DEPARTMENT OF COMMERCE". Below this is a navigation bar with "NODC HOME", "SEARCH THE NODC ARCHIVE", "BROWSE", and "SEARCH TIPS". The main heading is "Search the NODC Archive".

Below the heading, there is a search box with the text "title:GHR SST" and buttons for "Search" and "Clear All". To the right of the search box, it says "Results 1-60 of 60 record(s)".

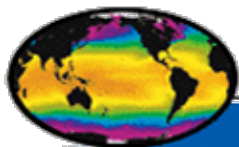
There are three search results listed, each for a different GHR SST Level 4 dataset:

- GHR SST Level 4 GAMSSA Global Foundation Sea Surface Temperature Analysis**: A Group for High Resolution Sea Surface Temperature (GHR SST) Level 4 sea surface temperature analysis produced daily on an operational basis at the Australian Bureau of Meteorology using optimal interpolation (OI) on a global 0.25 degree grid. This BLUELI... Website Details Metadata Download Search Granules LAS TDS OPeNDAP FTP Zoom To
- GHR SST Level 4 ODYSSEEA Global Foundation Sea Surface Temperature Analysis**: A Group for High Resolution Sea Surface Temperature (GHR SST) Level 4 sea surface temperature analysis produced daily on an operational basis at Ifremer/CERSAT (France) using optimal interpolation (OI) on a global 0.1 degree grid. It provides a daily clo... Website Details Metadata Download Search Granules LAS TDS OPeNDAP FTP Zoom To
- GHR SST Level 4 MUR Global Foundation Sea Surface Temperature Analysis**: A Group for High Resolution Sea Surface Temperature (GHR SST) Level 4 sea surface temperature analysis produced as a retrospective dataset at the JPL Physical Oceanography DAAC using wavelets as basis functions in an optimal interpolation approach on a glo... Website Details Metadata Download Search Granules LAS TDS OPeNDAP FTP Zoom To
- GHR SST Level 4 G1SST Global Foundation Sea Surface Temperature Analysis**: A Group for High Resolution Sea Surface Temperature (GHR SST) Level 4 sea surface temperature analysis produced daily on an operational basis...

On the left side of the search results, there are "Additional Options" including "Clear", "WHEN" (Dates overlap range, Dates within range), and "WHERE" (Zoom the map to desired area and choose "intersecting" or "fully within"). Below these options is a world map with a red grid overlay, indicating the search area.

Geoportal: <http://data.nodc.noaa.gov/geoportal>

Live Access Server: <http://data.nodc.noaa.gov/las>



Linking Collections and Granules

GHRSSST Long Term Stewardship and Reanalysis Facility



UAF HOME SEARCH BROWSE SEARCH TIPS

Search

Search metadata content, e.g. title:SST; use + to require keywords, e.g. +water +temperature;

use "" to search for an exact phrase, e.g. "water temperature"

fileidentifier:REMSS-L2P_GRIDDED_25-WSAT

Search

Clear All

Additional Options

WHEN

Dates overlap range Dates within range

From: (yyyyymmdd)

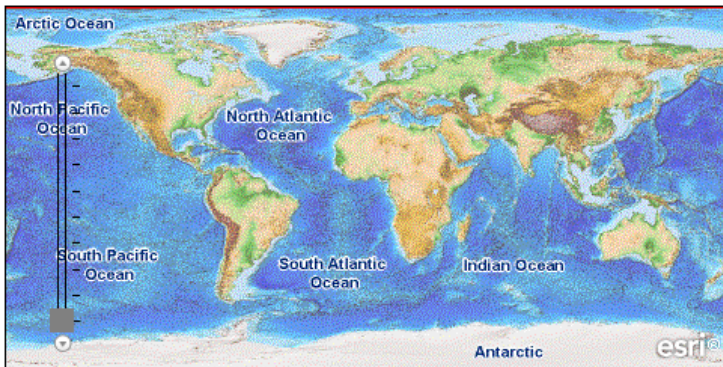
To: (yyyyymmdd)

WHERE

Zoom the map to desired area and choose "intersecting" or "fully within"

You can zoom the map by shift-click-dragging a bounding box

Anywhere Intersecting Fully within



Results 1-100 of 3080 record(s) [1](#) [2](#) [3](#) [4](#) [5](#) [>](#) [Last](#)

Expand results [Zoom To Results](#) [Zoom To Searched Area](#)

[20030626-WSAT-REMSS-L2P_GRIDDED_25-wsat_20030626v7-v01.nc.gz](#)

[20030627-WSAT-REMSS-L2P_GRIDDED_25-wsat_20030627v7-v01.nc.gz](#)

[20060217-WSAT-REMSS-L2P_GRIDDED_25-wsat_20060217v7-v01.nc.gz](#)

[20060218-WSAT-REMSS-L2P_GRIDDED_25-wsat_20060218v7-v01.nc.gz](#)

[20060219-WSAT-REMSS-L2P_GRIDDED_25-wsat_20060219v7-v01.nc.gz](#)

[20060220-WSAT-REMSS-L2P_GRIDDED_25-wsat_20060220v7-v01.nc.gz](#)

[20060221-WSAT-REMSS-L2P_GRIDDED_25-wsat_20060221v7-v01.nc.gz](#)

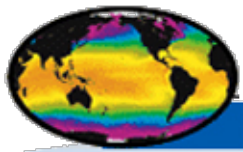
[20060222-WSAT-REMSS-L2P_GRIDDED_25-wsat_20060222v7-v01.nc.gz](#)

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[20060224-WSAT-REMSS-L2P_GRIDDED_25-wsat_20060224v7-v01.nc.gz](#)

[20060225-WSAT-REMSS-L2P_GRIDDED_25-wsat_20060225v7-v01.nc.gz](#)

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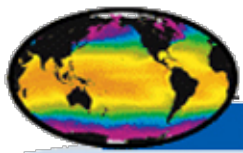


Active Archive Efforts at LTSRF

GHRSSST Long Term Stewardship and Reanalysis Facility



- **Major PO.DAAC Reconciliation Completed**
 - System more robust and less reliant on presence of XML files
- **GDS2 in Operations**
 - Just began archiving first two GDS2 datasets (NAVO VIIRS L2P and CMC L4 analysis)
 - Lat/lon out of range warning emails
- **Browse/KML Graphics**
 - Generated automatically
- **Automated Status Reporting**
 - Still maintained every day



NODC RDAC: Pathfinder SST

GHRSSST Long Term Stewardship and Reanalysis Facility



Project Goals

1. To provide the longest, most accurate, and highest resolution consistently-reprocessed SST climate data record (CDR) from the AVHRR sensor series
2. To serve as a fundamental input to GHRSSST Reanalysis CDRs



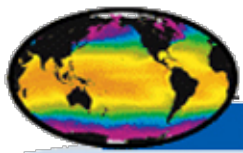
Current Status

1. Version 5.2 GDS2 L3C available for 1981-2012. Still no errors or times.
2. TDS, FTP, HTTP, LAS, OPeNDAP, WCS, WMS, and Geoportal Server
3. Collection and granule discovery
4. 7-day climatology and gap-filled time series in CoRTAD v4, soon v5
5. Extensive pilot production in commercial and private clouds
6. DOI minted: [10.7289/V5WD3XHB](https://doi.org/10.7289/V5WD3XHB)

Looking Forward

1. Summer 2014: Daily, 5-day, 7-day, and monthly V5.2 averages and climatologies in GDS2 L3C/L4
2. End of 2014: V5.3 GDS2 L2P, L3U, L3C (many improvements, see notes)
3. 2014-2015: Version 6 GDS2 L2P, L3U, and L3C, with uncertainties and times, 2000-present

Deirdre Byrne and Ken Casey, NOAA NODC

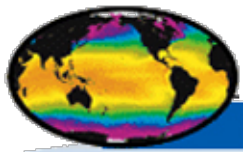


Questions/Issues from GHRSSST-14

GHRSSST Long Term Stewardship and Reanalysis Facility



NODC Issue or Concern	Comment
GDS2 Readiness	COMPLETE – now archiving GDS2!
PO.DAAC-NODC Reconciliation	COMPLETE – can track ongoing sync at http://www.nodc.noaa.gov/SatelliteData/ghrsst/remaining.txt
Archive of ATSR-1, ATSR-2, AATSR L2P data from RAL	UPDATE – Last meeting we received confirmation NOT to archive these data. Can we get that in writing? (email ok, perhaps from the existing CEDA-NEODC Help Desk ticket?)
SST Climatologies in GDS2	UPDATE – Questions arose again this year on this topic, so still timely. We have them, what should we do with them? RDACs making them too?
GCOS SST Intercomparison site and common-input comparison study	Should we turn it off, rely just on LAS? Anyone going to complete the study?

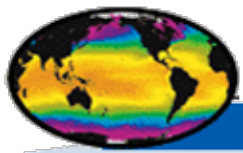


Questions/Issues for GHRSSST-15

GHRSSST Long Term Stewardship and Reanalysis Facility



NODC Issue or Concern	Comment
Growing volumes	No immediate concern, but changes could be coming. Would RDACs be open to deletion of older versions of data when newer ones exist in the archive? No analysis yet.
Digital Object Identifiers (DOI)	Ready to mint them for GHRSSST collections. Need authorship list for each product. Need to coordinate if RDACs already have a DOI so we can cross-reference.
Direct receipt of data at NODC vs. existing GDAC channel (e.g., new ATSR series reprocessing)	How to maintain comprehensive catalog?
30-day delay too long. Could we shorten or perhaps mirror?	Would like to explore possibilities for sake of user experience.



Sir Arthur G. Doughty

GHRSSST Long Term Stewardship and Reanalysis Facility



“Of all national assets, archives are the most precious; they are the gift of one generation to another and the extent of our care of them marks the extent of our civilization.”

- 🌐 1860-1936**
- 🌐 Dominion Archivist, Canada**